

REMARKS

Amendments to the Title and Claims

The title was amended to better reflect the subject matter covered by the remaining claims.

Upon entry of the present amendments, claims 24-27 and 29-33 are pending. Claims 8, 11, 14, 19-23 and 28 are cancelled without any intention to abandon any subject matter of these claims, but with the intention that claims of the same, lesser, or greater scope may be pursued in a later application.

Claim 30 was amended to incorporate the limitations of claim 28, from which it previously depended. Claim 29 was amended to shift its dependency from claim 28 to amended claim 30. The present amendment does not introduce new matter.

Each of the grounds for rejection cited in the Office Action is addressed below, under an appropriate sub-heading.

35 U.S.C. §103(a): Claims 8, 11, 14 and 19-23

Claims 8, 11, 14 and 19-23 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 4,442,772 (Bubley) in view of GB 2,264,460. These claims are canceled with this amendment, thereby obviating this ground for rejection.

35 U.S.C. §102(b): Claims 28 and 29

Claims 28 and 29 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 5,170,058 (Berasi *et al.*).

Claim 28 has been cancelled. Claim 29 is amended herein to depend from claim 30, and it now specifies that more than two apertures are defined along each peripheral edge of the metallic sheet. The provision of additional apertures along each peripheral edge of the sheet, as specified in amended claims 29 and 30, allows tensile force to be distributed substantially uniformly along two orientations across the plane of the sheet.

As illustrated in FIG. 2 of Berasi *et al.* (*reproduced to the right*), Berasi *et al.* discloses a stencil foil (23) that defines a receiving aperture (21) at each of its four corners. The four apertures (21) are provided to support the stencil foil (23) via tensioning springs (22). In this embodiment, tension is applied along two diagonal axes extending from opposite corners of the stencil foil. Berasi *et al.* offers no disclosure or suggestion of providing more than two apertures along each peripheral edge, nor does Berasi *et al.* offer any disclosure or suggestion of providing substantially uniform tension along two orientations across the plane of the stencil.

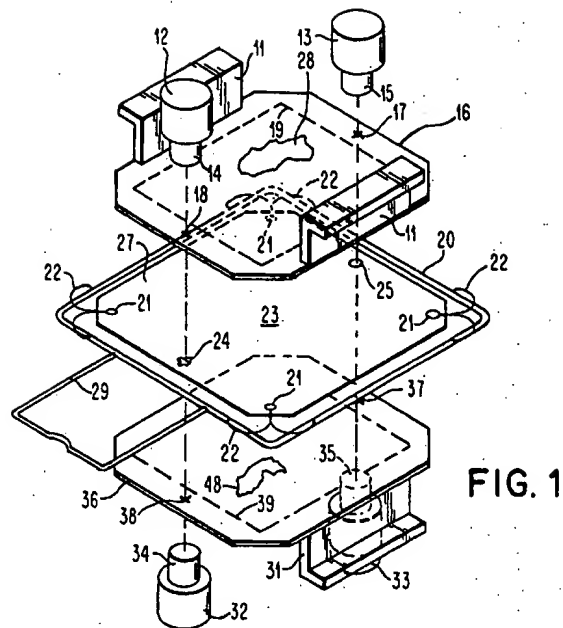


FIG. 1

Absent a teaching or motivation for providing more than two apertures along each peripheral edge of the stencil, Berasi *et al.* does not anticipate or render obvious Applicant's claim 29, as amended.

35 U.S.C. §103(a): Claims 24-27 and 30-33

Claims 24-27 and 30-33 were rejected under 35 U.S.C. §103(a) as being unpatentable over Berasi *et al.* in view of GB 2,262,460.

Claim 24 is directed to a stencil having a plurality of elongated slots separated by a plurality of elongated strips along four peripheral edges, wherein the elongated slots and strips are of substantially the same width. One embodiment of a stencil on which claim 24 reads is provided in FIG. 7 of the subject patent application, *reproduced at right*. The stencil is designed with the edges and slots (6) configured such that all four edges can be flexed.

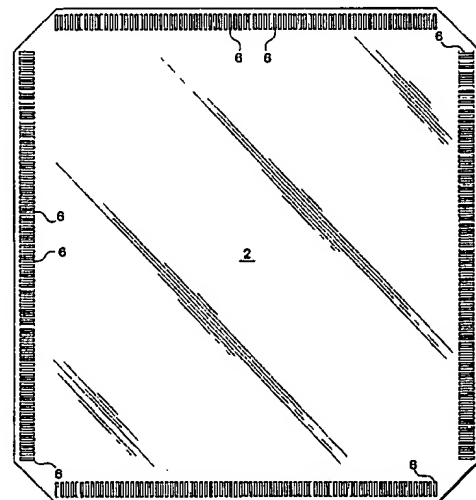
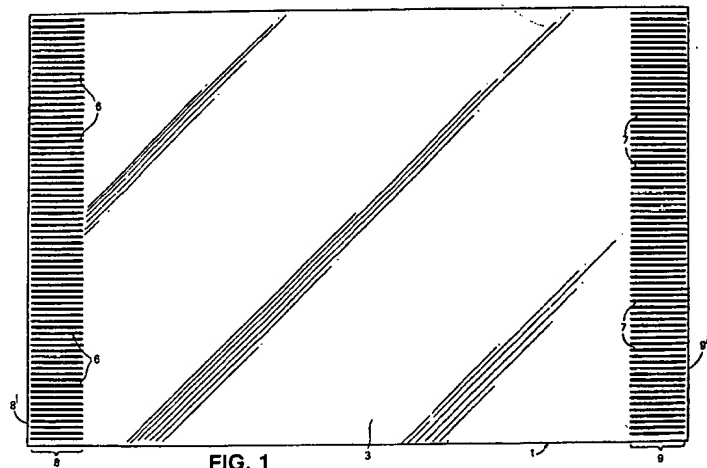


Fig. 7

The Patent Office noted that Berasi *et al.* does not show the receiving apertures of the stencil in the form of elongated strips, though GB 2,264,460 teaches a stencil with a plurality of elongated apertures for engaging with corresponding projections on displaceable mounting bars so as to ensure reliable connections between the two during the stencil tensioning operation. The Patent Office suggested that it would be obvious to one of ordinary skill in the art to provide the metal stencil (23) of Berasi *et al.* with elongated apertures as taught by GB 2,264,460 in order to ensure reliable engagement between the mounting bars and the stencil being tensioned.

The stencil of FIG. 1 of GB 2,265,460 is *reproduced in the image to the right*. The elongated apertures (6, 7) in the stencil of FIG. 1 extend from adjacent corners across two (but not four) peripheral edges of the stencil. If one were to import the teachings of GB 2,265,460 into Berasi *et al.*, assuming that proper motivation for doing so could be found, one



skilled in the art would, at most, simply replace the corner apertures of Berasi *et al.* with elongated slots similar to those illustrated in GB 2,265,460 and fill in additional slots along two edges. There is no suggestion in either reference of providing the elongated apertures of GB 2,265,460 along all four peripheral edges of the stencil.

In the absence of a teaching or suggestion in either reference of providing substantially-equal-width elongated slots and strips along *four* peripheral edges of the central body of a stencil, the combined references do not render obvious Applicant's claim 24 or claims 25-27, which are dependent therefrom. If the Patent Office disagrees as to whether such a motivation is provided, Applicant's respectfully solicit a detailed explanation as to the locus of the suggestion or motivation for a stencil design wherein the elongated slots and strips are provided along four edges, rather than along just two edges or just at the corners, in either of the cited references.

Claim 30 has been amended to put it in independent form, and claims 29 and 31-33 depend therefrom. Claim 30 is directed to a stencil wherein more than two receiving apertures

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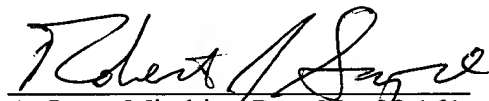
are defined along each of four peripheral edges. Again, claim 7 (reproduced above) of the subject application is one embodiment of a stencil upon which claim 30 reads.

As described above, Berasi *et al.* discloses a stencil with an aperture at each of four corners, and GB 2,264,460 discloses a stencil with apertures along two sides of the stencil. However, neither reference suggests a stencil design wherein more than two apertures are provided along *four* peripheral edges, nor is any motivation apparent that would lead one skilled in the art to produce a stencil design with more than two apertures along four peripheral edges based on the teachings of the two references. Absent evidence of a particular teaching, suggestion or motivation in either of the two references for producing such a stencil design, Applicant respectfully submits that claims 29-33 should be recognized as being non-obvious over the teachings of these two references.

CONCLUSION

On the basis of the foregoing amendments, Applicants respectfully request that the Patent Office reconsider and withdraw the pending bases for rejection. If there are any questions regarding these amendments and remarks, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

Respectfully submitted,



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Dated: February 21, 2003

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claims 8, 11, 14, 19-23 and 28 have been canceled.

Claims 29 and 30 have been amended as follows, with additions underlined and deletions struck through:

29. (Amended) The stencil of claim ~~28~~ 30, wherein opposing edges of the central body are of equal length.
30. (Amended) ~~The stencil of claim 28, wherein the four peripheral edges each include~~ A stencil comprising a metallic sheet having one or more apertures formed through the thickness of the metallic sheet to define a pattern for printing solder on a substrate, the metallic sheet having four peripheral edges, and the metallic sheet defining more than two receiving apertures along each peripheral edge.